Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

ambar. This passage is given in explaining a sort of converse to the usual form of lenticels, that is, convex externally.

I have been unable to harmonize this statement with the examinations made. In no stems of Acer campestre under three years of age were any lenticels discovered between the wings; in fact, the anatomy given of the first and second year's growth seems to preclude the idea of lenticels forming in this position. If occurring in this place, in any of the stems available for examination, it must have been on stems so far advanced in age as to have lost the peculiar winged appearance. Such stems were not examined. It is still more difficult to understand the meaning of this passage in case of Liquidambar and Euonymus Europæus. There is here no question about the position of the lenticels. As already explained in the anatomy, the wings of Liquidambar occur, at first, as a single ridge, under a row of lenticels on the upper side of the stem, which afterward splits open along the line of opening of the lenticels, in many cases the break extending quite to the phellogen cells. During this growth there is a large portion of the circumference of the stem not affected by the wing formation; over this are scattered the convex lenticels, which are in no way different from those on stems without cork. None were discovered between the wings in any other sense than this, and there are certainly no exceptions to the usual convex lenticels.

In Euonymus Europæus, the wings are at the corners of the stem, and between them are broad spaces covered with epidermis, which is plentifully supplied with stomata. These soon pass from that stage into that of corky excrescences, which, examined after they are considerably developed, appear to consist of the same tissues as the wing.

*Biological Dept. Univ. of Penn.*

## The "King-Devil."

LESTER F. WARD.

On the 24th of August, 1879, as I was returning from a hunting excursion of two weeks in the "North Woods" which flank the Adirondack mountains on the west (my own game having been entirely of a vegetable nature), to Evans'

Mills, in Jefferson county, New York, where the party was fitted out, we passed through the little town of Carthage, and before having fairly left the town I espied from the wagon an unfamiliar weed growing by the roadside. Leaping from the wagon, as I had done a hundred times before, and plunging my garden trowel under it I brought it up with a clod of earth which I shook off as I ran on and regained the wagon. I immediately recognized it as an Hieracium, but quite distinct from any of our native species, with all of which I thought I was familiar. The first glance made me very desirous of obtaining more, but a down grade with good road started the horses on a fast trot and I saw two or three specimens go by before I was able to obtain another without begging the driver to stop for the purpose and seeing him stare impatiently at me, as he, at least internally, cursed me as an incorrigible "crank." At length our speed slackened and I succeeded in obtaining one more specimen in the same manner as before.

I examined the specimens carefully, shaking my head as I placed them in my swollen portfolio, and resolved, that, if possible during my stay in that section, I would obtain more of the plant. Accordingly, on the following day, I gladly accepted the invitation of Mr. Jerry Walrath, since deceased, who was with our party, and a very pleasant gentleman, to take me a long ride around the country in the vicinity of Evans' Mills, which is chiefly noted as the site of the settlement on Pleasant creek, some three miles above that place, of the early French Le Ray family, the heirs of which preserve the estate almost like a park. I was, I confess, thinking all that day, which I remember with much pleasure, more of my new hawkweed, which I believed to be a modern immigrant from the continent, than I was of the more ancient immigrants about whom my friend so intelligently discoursed. At every fence corner and in every lane I scanned the ground, hoping to see it, until, as Thoreau says, the earnest searcher after a particular plant, the image of which has long been in his mind, will eventually do, I at last espied it, not, however, in isolated individuals growing by the barren roadside, but in a large colony, growing compactly together, the radical leaves in prostrate rosettes, forming an almost unbroken mat upon the ground along both sides of a fence that bordered a plowed field. The area was restricted, it is true, to a few rods in length, and to one side of the road, but it looked as if, prior to the last plowing of the field adjoining, it might have extended some distance inward. The plants were smaller and slenderer than the ones I had seen at Carthage, and it was a moment before I became certain of their identity. They represented all stages of advancement, from the buds to the ripening head, and I observed the light akenes, with their feathery pappus, detaching themselves from the plants and being borne away by the wind. I distinctly remember saying to Mr. Walrath, who, as I had told him what I hoped to find and he had seen me get the Carthage specimens, manifested a genuine interest in the matter, that if the farmers of that section did not take measures to prevent it, that plant might become a great pest, a remark which, I doubt not, if he were living, he would also recall. The particular spot where I found the plant on that day was some three miles northeast of the village of Evans' Mills, on the farm of Mr. John Evans, a descendant of the early family who gave their name to that place.

I took a goodly number of specimens and brought them back with me to Washington, where, at the herbarium of the Department of Agriculture, I carefully compared them with all the species of Hieracium there represented, and concluded that they agreed better with *H. fallax* Willd. and *H. prœaltum* Vill. than with anything else I could find. I sent specimens both of the Carthage and the Evans' Mills collections to Dr. Gray, stating some of the circumstances, and writing on the labels the names of the two species that I thought lay nearest to my plant. I am unable to recall the exact nature of his reply, but I am certain that it was not final and that he desired time to investigate the subject. Getting no further word from him, I distributed most of the specimens under the name "*H. fallax* Willd."[1] When Part I of Vol. II of Gray's Synoptical Flora appeared, my attention was called to the credit given me on page 424 for the discovery of the plant in this country. It is, as he cautiously remarks, "a form" of H. præaltum, and I shall presently note the principal points of divergence from the type of that species.

As is the habit of romance writers, I must now ask the reader to figure to himself the lapse of a considerable length of time, viz., eight years. After the smoke of the great battle, which was called the Cleveland meeting of the American Association for the Advancement of Science, was over, I retired, begrimed and discomfited, to the classic banks of the St. Lawrence, where the winds, though sometimes brisk, are not laden with carbon, and where some members of my household had gone before me. The night of my arrival I heard through them that a botanist from Albany had recently visited Evans' Mills and Carthage in search of a plant that he said I had found there, that he had called on Mr. William Comstock, an intimate friend of mine, and who had been the life of the hunting party above alluded to, and questioned him concerning it. I immediately had my suspicions as to what plant it was, which were fully confirmed a few days later when Mr. Comstock and his wife came from their home in Evans' Mills and spent a day with us at the Central Park. I learned from them that the gentleman's name was Peck, and I at once knew that it could be none other than Prof. Charles H. Peck, State Botanist of New York. Mr. Comstock related to me the interview with Mr. Peck as nearly as he could remember it; that he was in search of a plant that I had once collected at Evans' Mills and Carthage, that the plant was a "hawkweed," etc. Mr. Comstock said he told him that there was a hawkweed growing there on all the farms which was a terrible pest to the country and had gained the name of Devil-weed, King of Devils, or, more briefly, the King-Devil, but that this could not be the rare plant he was in search of, because it was so extremely abundant, and, besides, it flowered in June, and I had collected my specimens late in August. He further said that, unable to find the plant at that place, Prof. Peck had secured a conveyance to Carthage, and that he understood from the party who drove him there that he also failed to find it there.

---

[1] I wish to say here that, through some curious inadvertence, I now possess neither of the specimens collected at Carthage, and to ask any of my old correspondents to whom I sent the plant (the Harvard Herbarium excepted), who may chance to read these lines to take the trouble to look and see if his specimen is labeled from that place, and let me know if it is, as I would be glad to know where these specimens are.

The narrative interested me intensely, and I did not hesitate long in accepting the invitation of my friend, Mr. Comstock, to come and spend a little time at Evans' Mills, and to go about the country again. To be brief, I spent the most of two days (September 5 and 6, 1888) almost exclusively in the investigation of this question. One hour after arriving there I satisfied myself that the King-Devil was none other than Hieracium præaltum, which, as I had predicted, had been sown broadcast by the wind over that entire section of the state, and had now become a veritable terror to the farmers. We traveled over much of the worst infested region and found no one who did not know perfectly well what the King-Devil was. It forms a continuous mat of pale green leaves lying flat on the ground and preventing any other form of vegetation from taking root. In June it sends up a scape, or, more properly, an almost leafless, more or less branching stem, bearing a large number of flowers in a panicle, which quickly ripen and permit the achenia to be scattered by the wind. The stems then die and turn brown, but persist in an erect position, the leaves at the base remaining green, thickening and multiplying and the plants spreading by suckers as well as by seed. This last I proved by securing specimens with two distinct plants attached by the subterranean rhizome.

Notwithstanding this date of normal flowering, I was not disappointed in my attempts to procure good specimens. As the inhabitants well know, the King-Devil sometimes yields two crops of seed. By this is meant that fresh flowering stems will occasionally spring up in late summer, apparently always from plants that did not fruit early in the season. But, as far as my observation went, this was sporadic and comparatively rare. In fields infested with the plant it was difficult to find such autumnal bloomers, but they occur in considerable numbers standing more or less isolated along the roadsides and at other places where there is little or no vegetation. In this condition they could be found at the time I was there, growing very large and thrifty, in all stages from early budding to mature fruiting. My undue zeal led me to collect a very large number of fine specimens, and this is perhaps the place to say that these specimens are for free distribution to any that may desire them.

I made careful inquiries, first, as to the local origin of this noxious weed; secondly, as to the date of its first appearance; and thirdly, as to the exact extent of its present distribution.

To the first of these inquiries I received the almost unanimous answer that it was first seen on the farm of Mr. John Evans, and that from this point it had spread only in an easterly or southerly direction, owing to the prevalence at the time it is in fruit of westerly or northerly winds. As to the second inquiry, while I found those who stated that it had been known near this point of origin for fifteen or twenty years, the consensus of opinion seemed to be that it had not been regarded as a pest for more than seven or eight years. This last is certainly true, for had there been any such noxious plant in that vicinity in 1879 I should have heard of it, and had it been known then as it is now, I should have been derided for getting off a wagon to dig a specimen of the King-Devil. May it not be that, after a day's search, I found it on that occasion at or near the very nest in which it was first hatched in the United States? I revisited that spot and found it still holding its own, but it had then spread in all directions, and could be found in every lane and by every fence in all that section of Le Ray township.

With regard to its present distribution I could obtain much less satisfactory information. I was told that it had swept a tract of country from five to ten miles wide, but as to the length of this belt no one was able to give any definite idea. Carthage would be immediately in its track, but this is only a distance of fifteen miles. Finally, not having investigated other parts of the state, I am not, of course, prepared to say whether this is really its center of distribution, or whether it may not be equally destructive to other sections, but I incline to believe that such is not the case. It is one of the legitimate questions for the state botanist to investigate, and whenever he shall do so I shall be very glad to learn the result. I am certain that it does not occur among the Thousand Islands or along the St. Lawrence river adjacent, having just spent ten days in studying the botany of that section, with my attention specially drawn to the subject; but the nature of the country here is such that it would scarcely be expected to grow, even if introduced. I met a young man named F. W. Barnes, who resides at Auburn, and who told me that a similar plant, but with purple flowers, was found in that vicinity. At my request, he has sent me a specimen since my return to Washington, which proves to be *H. aurantiacum* L., thus showing the accuracy and clear discrimination of Mr. Barnes, to whom I desire here to express my thanks publicly, as I have already done privately. I have since corresponded further with Mr. Barnes, and he informs me that he knew of this plant only in one place near Auburn, where, as the owner of the land informed him, it had been known for twelve or thirteen years without tending to spread, because it had been prevented from going to seed. He understands that plowing it under kills it. He says that he has never seen the King-Devil in that section of the state, but that he once saw it at Napanee, Ontario, thirty-five miles west of Kingston. If there is no mistake in this last observation, it is a very important fact, and will require us to look still farther westward for the first starting point of our unwelcome immigrant. May it not have been originally a ballast plant of some Canadian port, as Toronto, for example?

Another question to which I gave some attention was that of how this modern intruder can be destroyed or expelled. About the only remedy that had been tried was that of salting the places infested with it. This, if thoroughly done, kills the plant, but it also kills everything else. It is expensive, and can only be successfully practiced in cases where the plant is still confined to comparatively small spots. If taken in time it can be temporarily kept from a given territory in this way. Its habit is to spread by small colonies, which, if left undisturbed, will eventually become confluent and cover entire fields. A single seed would probably produce one of these colonies in a few years, the original seedling propagating by underground stolons through a succession of generations, and thus working out radially in all directions. I visited the portion of Mr. J. P. Steinhilber's farm, where salting had been practiced some months previous, and saw that it had for the time being destroyed all vegetation, but, singularly enough, I found growing in the middle of the area thus blasted several large autumnal specimens of the King-Devil in fine condition for the botanist, two of which I collected and have specially labeled. No other vegetation whatever had sprung up on this sterilized soil. Mr. Wayne Stewart, whom I was unable to meet personally, has conducted the experiment of salting on a large scale, and is said to regard it as a success. After having been destroyed in this way the plant will not reappear until again seeded by the wind from other parts.

The only other remedy I heard of was simply to plow the plants under, when a crop may be raised upon the ground thus plowed, and many of the roots will be killed. The subject should certainly be investigated scientifically at the State Experimental Station and means devised, if possible, to prevent the further spread of so dangerous an enemy of the agricultural industry of the state of New York.

The species *Hieracium præaltum* was originally named by Dominique Villars in F. C. Gochnat's Tentamen medico-botanicum de plantis Cichoraceis, 1808. De Candolle, in the Prodromus, enumerates five varieties, but he treats *H. fallax* Willd., with its three varieties, as a distinct species. These are now generally regarded as simply varieties of *H. præaltum*, having the leaves somewhat narrower and acute, more or less white-tomentose beneath and the stem sparingly pilose. Some of the varieties occasionally bear stolons above ground, but this is never the case with the New York form, although, as already remarked, subterranean suckers are common. With the exception of the white-tomentose under surface, my specimens would perhaps fall more nearly under the section *fallax*, but in the absence of this character I am disposed to refer them to some of the original varieties of De Candolle, although this is somewhat difficult. The variety *hispidulum* of Froelich is much the nearest, this having the base of the scape and also the leaves pilose-hispid. In our plant there are frequently, but not always, strong and very long white hairs on both surfaces of the leaves as well as along their margins, but those on the scape are very few and mostly near the base; they are also quite short. The whole plant, except the dark glandular hairy involucre and pedicels, is light green or glaucescent. There are usually two small leaves on the stem, the upper of which, however, subtends the lowest branch, and the other branches are provided with smaller bracts. A minute black ring or speck encircles the base of each hair, and many such occur where the hairs are no longer present.

In the investigation of this plant and the numerous interesting questions arising from its singular advent and diffusion in that section of northern New York, I have been greatly aided by Mr. William Comstock, without whose coöperation I could have accomplished little or nothing, and also by Messrs. Henry L. Lawton and J. P. Steinhilber,[2] who gave me much practical information, and I desire, in closing, to acknowledge the services of these gentlemen.

*National Museum, Washington, D. C.*

## BRIEFER ARTICLES.

**Another death from eating Cicuta maculata.**—Hon. Eugene Secor, of Forest City, this state, a member of the board of trustees of the Iowa Agricultural College, brought me to-day a fleshy root of a plant of the Water Hemlock (*Cicuta maculata* L.). The circumstances which brought it to his notice were as follows: A neighbor of his, by the name of Mr. Oleson,

---

[2] Mr. Steinhilber brought me two other plants which he said were becoming quite troublesome. The one was *Potentilla argentea* L., which I had seen abundant in the fields. The other was *Poterium Sanguisorba* L., which I had not seen, but which must have been introduced quite extensively into this country, as I found it in 1883 at Odenton, Md., and it has been found at Baltimore and at several points in New York state. I also have it from Mr. Martindale as a Philadelphia ballast plant.